

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

September 29, 2003

TO: Internal File

THRU: Stephen J. Demczak, Environmental Scientist III/Engineering, Team Lead

FROM: Gregg A. Galecki, Environmental Scientist III/Hydrology

RE: South Fork Portals Reclamation, Canyon Fuel Company, LLC., Skyline Mine, C/007/005, Task ID #1706

SUMMARY:

The following is a review of a proposed amendment to the Skyline Mine Mining and Reclamation Plan (MRP) received by the Division on August 29, 2003. The amendment includes the use of waste rock during the reclamation of the portals located in the South Fork of Eccles Creek. The following review addresses aspects of the amendment from a hydrologic prospective only. Concerns from other disciplines are addressed in separate reviews. The proposal adequately addresses the minimum requirements of the State Regulations and is recommended for approval.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

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Analysis:

Map 2.2.1-1 adequately illustrates that the portals are located within the Blackhawk Formation and the dip is to the west indicating that any infiltration of the mine waste will be towards the portals and not toward the creek.

Findings

The information provided adequately addresses the minimum requirements of the Environmental Resource Information – Geologic Resource Information section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Existing Surface Configuration Maps

Map 3.2.11-1 - Mine #1 Portal Breakout Area adequately identifies the area to be reclaimed on a reasonable topographic scale. Map 4.6.5-1 has also been included in the submittal to adequately illustrate the current surface surrounding the portal area and identify cross sections of the proposed backfill. No additional maps are required at this time.

Findings:

The information provided adequately addresses the minimum requirements of the Environmental Resource Information – Maps, Plans, and Cross Sections of Resource Information section of the regulations.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Groundwater Monitoring

No springs or wells exist in the vicinity of the South Fork Portals that would be affected by the current activity. Although waste rock has been included in the fill, it has tested negative for acidic and toxic properties. The dip of the geology is into the mine so any infiltration of the waste rock will flow into the mine.

Surface Water Monitoring

Stream monitoring site CS-15 is located approximately 600-feet downstream of the South Fork Portal area and encompasses the majority of the proposed disturbance. Two stream monitoring sites exist on the South Fork of Eccles Creek (CS-15 and VC-10, respectively). Based on flow records since 1990, CS-15 accounts for approximately 10-12 percent of the flow in the South Fork of Eccles Creek. The middle branch of South Fork of Eccles Creek (where the portals are located) is an ephemeral channel. Flow records since 1990 indicate flows range from 0 to 138 gpm, with an average recorded value of approximately 45 gpm. Skyline's sampling frequency is typically June-August-October and flow has only been observed in June indicating flow is typically in response to snowmelt and individual storm events. Should any localized adverse conditions arise at the reclamation site, CS-15 should adequately document any changes.

Acid- and Toxic-Forming Materials and Underground Development Waste

Acid and toxic-forming materials generation to the point that it causes environmental harm is unlikely. The waste has been tested and will continue to be tested prior to placement as backfill. The portals are located approximately 25-feet vertically and 70-feet horizontally from the middle branch of the South Fork of Eccles Creek that is an ephemeral drainage (in that stretch) indicating communication between the two is unlikely. The portals are located on a well-vegetated slope with no drainages leading through the portal site, indicating sheet flow of

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water will be minimal through the site. The waste rock will also be covered by a minimum of 4-feet of topsoil and subsoil, highly reducing the infiltration of water through the waste rock.

Sediment Control Measures

There are two primary sediment control treatments that will be employed on the South Portal reclamation site. In Section 4.6 Topsoil/Subsoil Handling Plan of the MRP the Operator commits to deep gouging of the reclaimed surfaces. The deep gouging will eliminate any potential concentration of flow coming off the slopes while vegetation is being established. The gouges immediately adjacent to the 80-foot section of stream channel being re-established will be comprised of a durable mixture of materials. This will include a combination of increased straw, rock, and/or high-clay soil in an effort to make the stream banks more durable while vegetation is being established.

During reclamation of the portal area, the existing road will have extensive traffic from trucks bringing in materials. Minor improvements need to be done to the road prior to being used, such as leveling existing berms and widening the road in key locations, and sloping the road inward. The Operator has made the commitment to place straw bales or silt fences in areas where water concentrates prior to entering the creek. Following reclamation of the portals, sections of road being reclaimed will also be deep gouged to eliminate any concentration of flow running into the stream channel.

Findings:

The information provided adequately addresses the minimum requirements of the Operation Plan – Hydrologic Information section of the regulations.

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

In Section 2.4.4 of the MRP the Applicant commits to continuing sampling 'throughout the post-mining period until the reclamation effort is determined successful by the regulatory authority'. This adequately covers the Hydrologic Reclamation Plan.

Findings:

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Hydrologic Information section of the regulations.

RECOMMENDATIONS:

The proposed amendment can be approved in its current form based on supplied hydrologic information.